

09/893,803

F0660/AMDP660US

REMARKS

Claims 1-29 are currently pending in the subject application and are presently under consideration. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments herein.

I. Rejection of Claims 1-29 Under 35 U.S.C. §103(a)

Claims 1-29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Miller *et al.* (US 6,643,557) in view of Moslehi (US 5,719,495). Applicants' representative respectfully requests that this rejection be withdrawn for at least the following reasons. The cited references, either alone or in combination, fail to disclose or suggest all limitations of the subject claims.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) *must teach or suggest all the claim limitations*. See MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art and not based on the Applicant's disclosure. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

The claimed invention relates to a system for regulating an etch process for the fabrication of multi-sloped semiconductor features. In particular, independent claims 1, 8, 12-15, 25 and 29 recite similar limitations, namely *a system for in-situ regulation of an etch process employed in fabricating multi-sloped semiconductor features on a wafer comprising one or more etching components operative to etch at least one aspect of a multi-sloped feature on a wafer and an etch component controller for controlling one or more etching components*. Neither Miller *et al.* nor Moslehi, alone nor in combination, disclose or suggest such novel features of applicants' claimed invention.

09/893,803

F0660/AMDP660US

Moslehi relates to a system for *in-situ* monitoring of physical properties of metal and other material layers as well as semiconductor wafer surface roughness. On page 3 of the Final Office Action, the Examiner incorrectly contends that Moslehi shows the *in-situ* use of an optical measurement device for process control in processing tools *such as etch processes*. At the indicated portions of the reference, Moslehi shows "critical *in-situ* sensors (real-time as well as pre and post-process sensors) for...anisotropic plasma etch...and isotropic plasma etch." See col. 8, lines 20-27. Although Moslehi may provide for *in-situ* monitoring of etch processes, nowhere is there any teaching or suggestion of *in-situ regulation of an etch process...comprising one or more etching components operative to etch at least one aspect of a multi-sloped feature on a wafer and an etch component controller for controlling the one or more etching components* as in applicants' claimed invention. Thus, it is readily apparent that Moslehi simply teaches rudimentary *in situ* monitoring, but not *in situ* regulation of an etch process based on such monitoring as in applicants' invention as claimed.

Neither Miller *et al.* nor the acknowledged prior art compensate for the deficiencies of Moslehi. Miller *et al.* is directed towards utilizing scatterometry to measure non-slope semiconductor features, and as conceded by the Examiner, the reference does not make measurements *in-situ*. In addition, the acknowledged prior art simply recognizes scatterometry systems as being known, and thus fails to make up for the shortcomings of Moslehi.

Moreover, the Examiner asserts that both the concepts and advantages of employing scatterometry to measure multi-slope semiconductor features is well known and expected in the art. Applicants' representative respectfully traverse the aforementioned well-known statements and requests that the Examiner cite a reference in support of his position pursuant to MPEP 2144.03, or in the alternative, withdraw the rejection.

The Federal Circuit has consistently held that in order to establish obviousness *vis-à-vis* a combination of cited references, the cited references *must themselves provide a suggestion for the combination* to one of ordinary skill in the art. The suggestion for such a combination cannot and must not be based on applicants' disclosure using hindsight. *See In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Here, neither the nature of the problem to be solved, the teachings in the cited art, nor the knowledge of persons of ordinary skill provides sufficient suggestion or motivation to combine the references. Instead, the Examiner relies on improper hindsight in reaching his obviousness determination. The Federal Court has held that

09/893,803F0660/AMDP660US

to imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher. *One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to depreciate the claimed invention. In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d (BNA) 1596 (Fed. Cir. 1988) (citations omitted and emphasis added).

In view of at least the foregoing, it is readily apparent that the cited references, either alone or in combination, fail to teach each and every limitation of independent claims 1, 8, 12-15, 25 and 29 (and the claims that depend there from). Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

The present application is believed to be in condition for allowance in view of the above comments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [AMDP660US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

AMIN & TUROCY, LLP



Himanshu S. Amin
Reg. No. 40,894

AMIN & TUROCY, LLP
24TH Floor, National City Center
1900 E. 9TH Street
Cleveland, Ohio 44114
Telephone (216) 696-8730
Facsimile (216) 696-8731